Anti-VZV gE antibody, mouse monoclonal (#9)

65-358 100 µg

Shipping and Storage temperature: Ship at 4℃ and store at -20℃. Do not freeze.

Immunogen: Varicella-zoster virus Oka vaccine strain

Specificity: Reacts with gE of VZV

Applications

1) Western blotting (1/2,000-1/5,000)
2) Immunoprecipitation (1/100)
3) Imunofluorescence staining and Immunocytochemistry (1/50-1/100)
4) ELISA (1/5,000)

Isotype: mouse IgG2a kappa

Product: Produced by hybridoma grown in serum-free medium and purified by proprietary chromatography procedure under mild conditions. 90~95% pure by SDS-PAGE.

Form: 1 mg/ml in PBS, 50% glycerol, filter sterilized. Azide- and carrier-free.

Data Link: UniProt Q9J3M8 (GE_VZVO)

Background: Varicella Zoster Virus (VZV) is one of eight herpesviruses known to infect humans and vertebrates. VZV only affects humans, and commonly causes chickenpox in children, teens and young adults and herpes zoster (shingles) in adults and rarely in children. VZV is known by many names, including chickenpox virus, varicella virus, zoster virus, and human herpesvirus type 3 (HHV-3).

VZV infects the nerves, and causes a wide variety of symptoms. After the primary infection (chickenpox), the virus goes dormant in the nerves, including the cranial nerve ganglia, dorsal root ganglia, and autonomic ganglia. Many years after the patient has recovered from chickenpox, VZV can reactivate to cause a number of neurologic conditions

gE is envelope glycoprotein that binds to the potential host cell entry receptor IDE. In epithelial cells, the heterodimer gE/gI is required for the cell-to-cell spread of the virus, by sorting nascent virions to cell junctions. Once the virus reaches the cell junctions, virus particles can spread to adjacent cells extremely rapidly through interactions with cellular receptors that accumulate at these junctions. Implicated in basolateral spread in polarized cells. In neuronal cells, gE/gI is essential for the anterograde spread of the infection throughout the host nervous system. Together with US9, the heterodimer gE/gI is involved in the sorting and transport of viral structural components toward axon tips.
The heterodimer gE/gI serves as a receptor for the Fc part of host IgG. Dissociation of gE/gI

from IgG occurs at acidic pH. May thus be involved in anti-VZV antibodies bipolar bridging, followed by intracellular endocytosis and degradation, thereby interfering with host IgG-mediated immune responses .

gE consists of 623 amino acids with 70 kDa mass. It is phosphorylated on serines within the acidic cluster. Phosphorylation determines whether endocytosed viral gE traffics to the trans-Golgi network or recycles to the cell membrane.

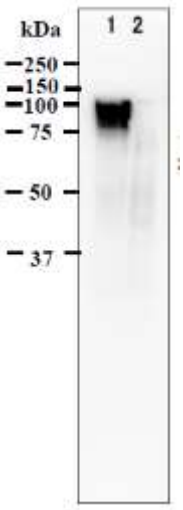

Fig.1. Identification of gE protein in VZV-infected cells by western blotting using anti-VZV gE antibody (clone #9).

Lane 1; VZV strain pOka infected MRC-5 cell lysate

Lane 2; MRC-5 cell lysate (uninfected negative control)

The anti-VZV gE antibody was used at 1/5,000 dilution.

The broad band in WB reflects multiple species of gE which are glycosylated at different levels.

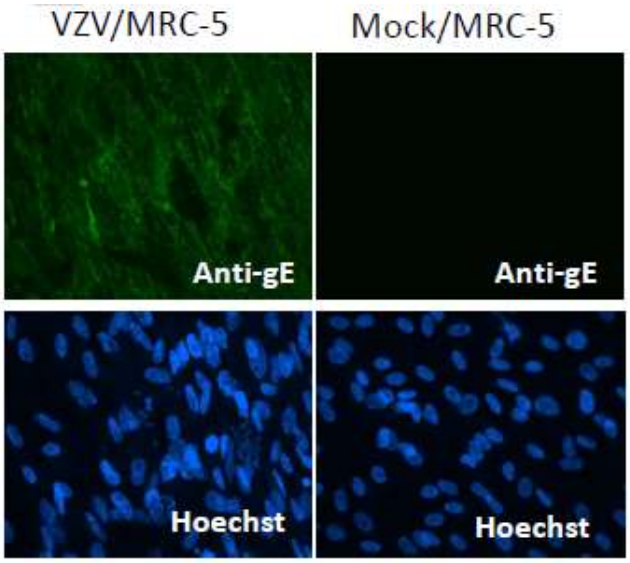

Fig.2. Immunofluorescence staining of VZV gE protein in VZV-infected MRC-5 cells by using anti-VZV gE antibody (clone #9). Anti-VZV IE62 antibody was used at 1/100 dilution. As second antibody, Alexa Fluor 488 donkey anti-mouse IgG [H+L] was used at 1/200 dilution. Nuclei were stained with Hoechst 33342.

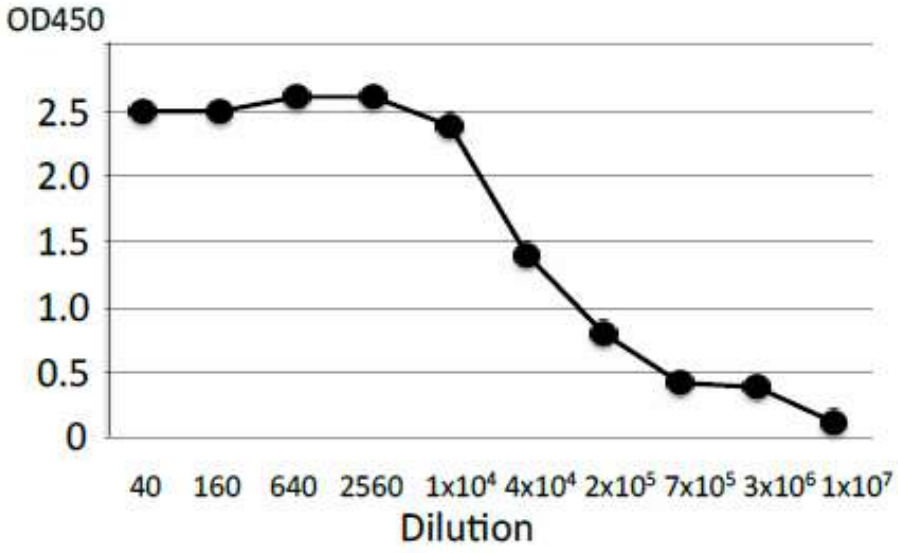

Fig.3. Titration of antibody reactivity of anti-VZV gE (#9) by indirect ELISA using lysate of VZV-infected MRC-5 cells.

VZV-lysate (100 µl, 1 µg/ml) was coated onto the wells of the plate. After blocking with 5% skim milk, 100 µl of antibody at the indicated dilution was added to the each well. HRP-conjugate goat anti-mouse IgG (100µl、x4000 dilution) was added. As substrate, OPD (ortho–phenylenediamine) was used. Optical densities (OD) measured at 450nm.

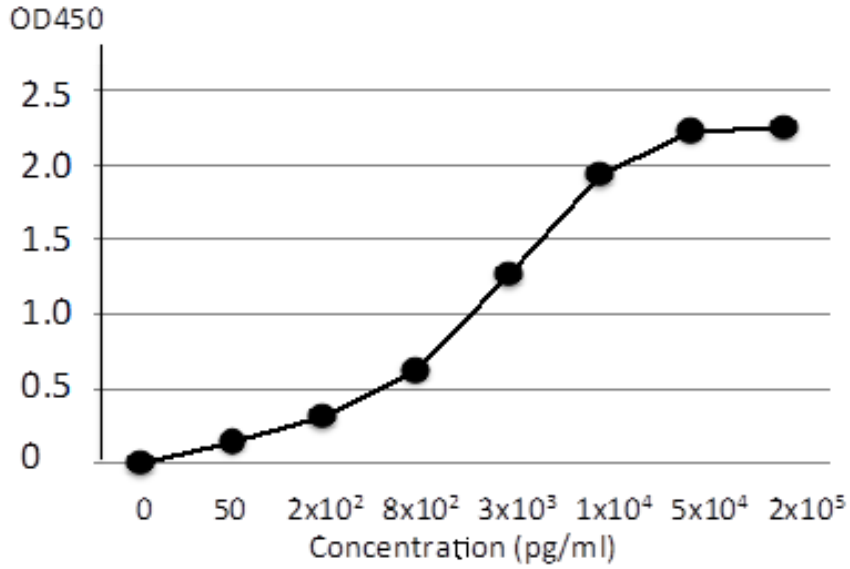

Fig.4. ELISA using anti-VZV gE (#9) monoclonal antibody.

ELISA plate is coated with indicated amounts of VZV-lysate per well. Monoclonal antibody was used at 1/5,000 dilution. ELISA was performed as in Fig.3. Dynamic range was 200 pg to 10ng under these conditions.

References: This antibody was used and cited in the following publications.

1.Okuno T. et al. Synthesis and processing of glycoproteins of Varicella-Zoster virus (VZV) as studied with monoclonal antibodies to VZV antigens. Virology. 1983 Sep;129(2):357-68.**WB**

2.Shiraki et al. Neutralizing anti-gH antibody of Varicella-zoster virus modulates distribution of gH and induces gene regulation, mimicking latency. J Virol. 2011 Aug;85(16):8172-80. doi: 10.1128/JVI.00435-11. **IF**

Related Products:

65-350 anti-VZV IE62 antibody (clone 62A)

65-354 anti-VZV IE62 antibody (clone 62B)

65-363 anti-VZV gH antibody (clone OAKK39)